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(11) EP 0 681 860 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
17.07.1996 Bulletin 1996/29

(51) Int Cl.<sup>6</sup> B01D 53/047, B01D 53/06

(43) Date of publication A2:  
15.11.1995 Bulletin 1995/46

(21) Application number: 95303019.4

(22) Date of filing: 03.05.1995

(84) Designated Contracting States:  
BE DE FR GB IT LU NL

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(30) Priority: 09.05.1994 US 240048

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### (54) Continuous pressure difference driven adsorption process

(57) A continuous pressure driven adsorption process for separating a multi-component gaseous mixture. In accordance with the method, the multi-component gaseous mixture is passed through a first portion of the adsorbent to adsorb one or more preferentially adsorbed components while a second portion of the adsorbent is regenerated. The multi-component mixture is passed through the first portion of the adsorbent in sections and the second portion of the adsorbent is regenerated in sections. The sections forming the first portion of the adsorbent become successively less saturated and the sections forming the second portion of the adsorbent becomes successively more concentrated in the more preferentially adsorbed component. A product stream is expelled from the less saturated section of the first portion of the adsorbent. The product stream is enriched in the less preferentially component(s). Masses of adsorbent are continually being shifted between the first and second portions of the adsorbent so that the mass of adsorbent forming the regenerated section is shifted to the first portion of the adsorbent and used to form the least saturated section. The mass of adsorbent forming the most saturated of the sections is shifted to the second portion of the adsorbent and used to form the non-regenerated section. The masses are shifted at a sufficiently high frequency to maintain the sections forming the first and second portions of the adsorbent in their successively less saturated and successively more concentrated states.

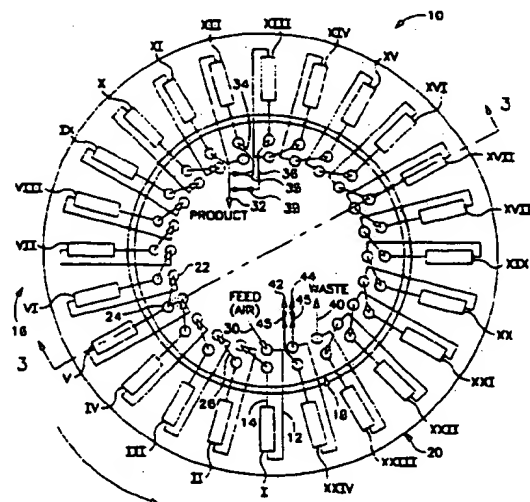


FIG. 1A

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# EUROPEAN SEARCH REPORT

Application Number  
EP 95 30 3019

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	DE-A-29 02 018 (DAIMLER-BENZ) * the whole document *	1,2	B01D53/047 B01D53/06
X	DE-A-16 19 849 (CHEMIEBAU DR. A. ZIEREN) * page 7, paragraph 1 - page 8, paragraph 2; figures 1,2 *	1,2,4	
X	FR-A-1 007 584 (S. A. DES ATELIERS ET CHANTIERS DE LA LOIRE) Page 2, left column, paragraph 9 - page 3, left column, paragraph 5	1,2	
X	FR-A-2 117 465 (UNIVERSAL OIL PRODUCTS) * page 15, line 3 - page 19, line 3; figures 8,8A *	1,2	
A	EP-A-0 538 140 (L'AIR LIQUIDE)		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B01D
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>8 May 1996</b>	Examiner <b>Bogaerts, M</b>
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons Δ : member of the same patent family, corresponding document	
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